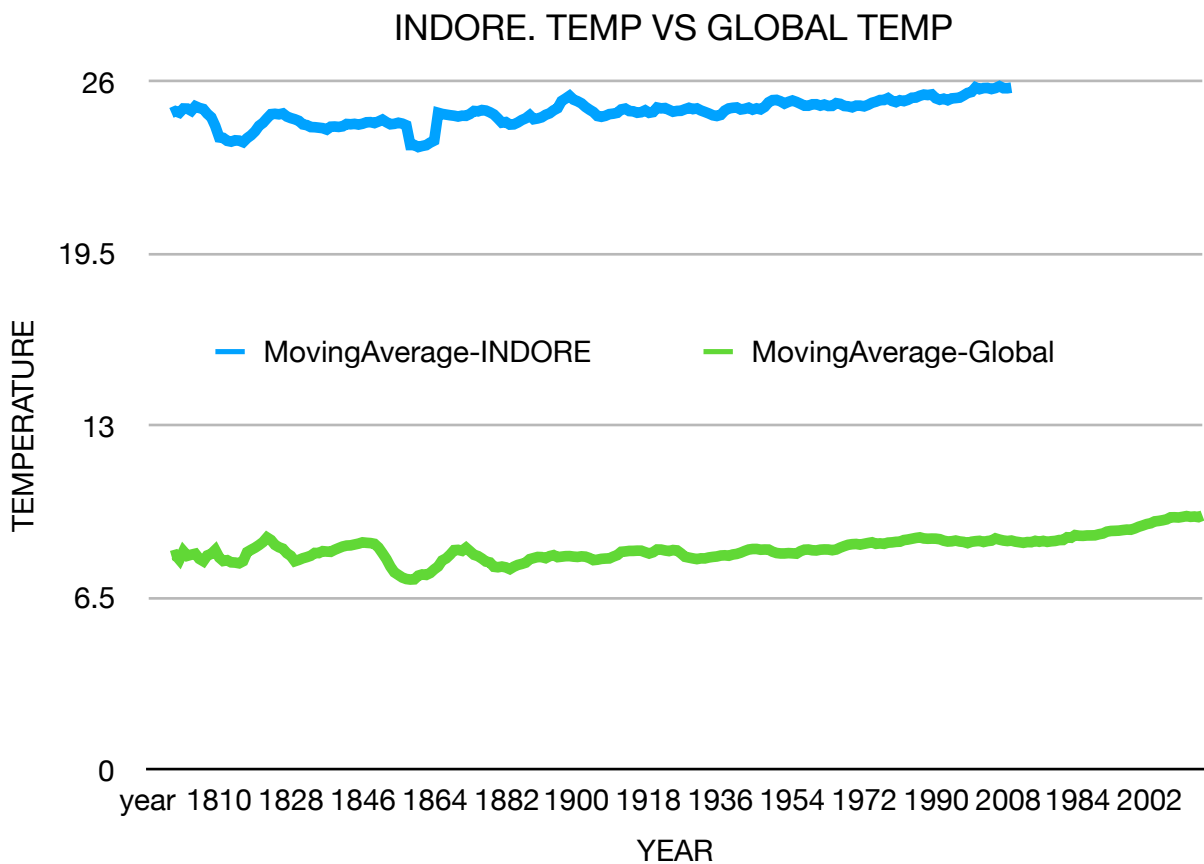


Weather Trends Report

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Preparation of Data

1. SQL was used to download the CSV files of city-country list. The same was perused and Indore city was selected as the nearest city to where I lived. Indore city temperatures and the global temperatures CSV files were downloaded. The respective commands are given below

- a.

```
SELECT *  
FROM city_list
```
- b.

```
SELECT *  
FROM city_data  
WHERE city LIKE 'Indore'
```
- c.

```
SELECT *  
FROM global_data
```

2. The downloaded CSV files were saved in “Numbers” software in “Mac OS Sierra” which is the Mac equivalent of Windows Excel.

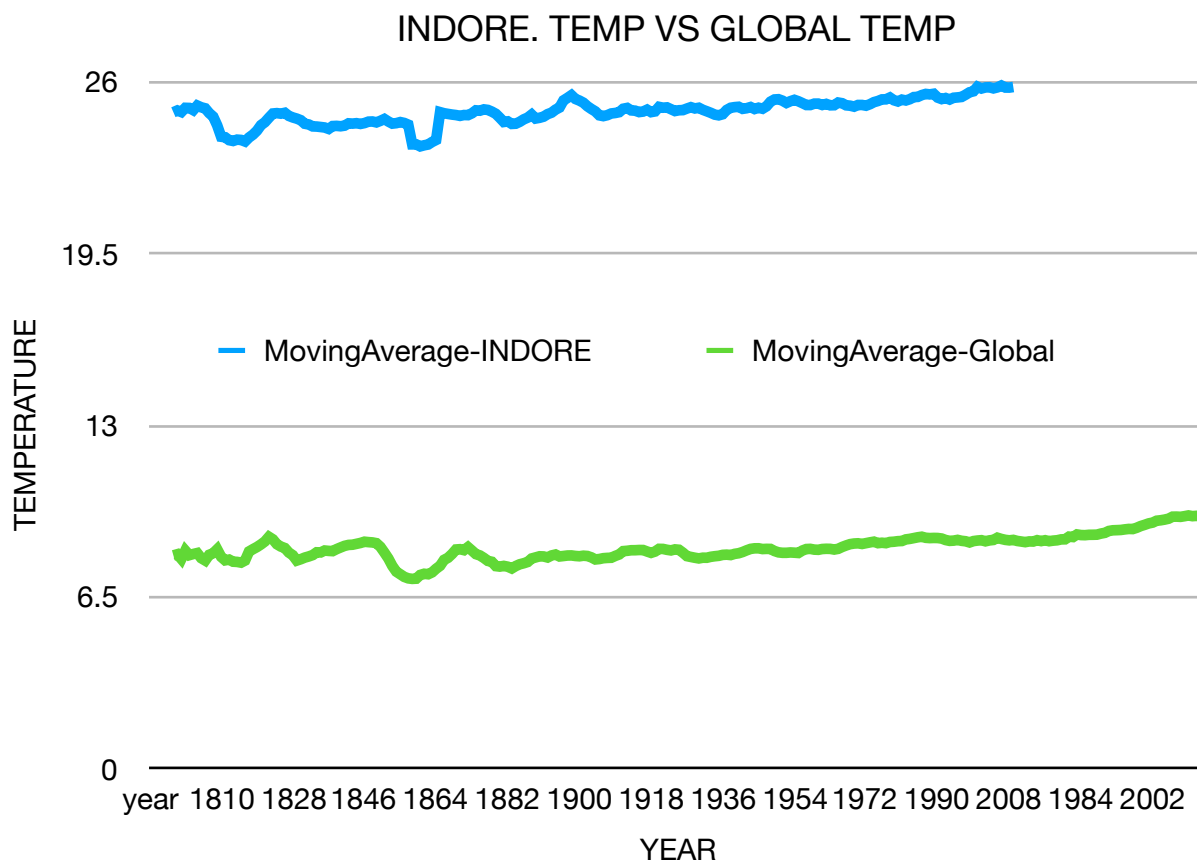
3. The moving average was calculated as the average of the temperatures of the previous seven days inclusive of the day under consideration. These values were then put in a new “Moving Average” column. The same was done for the global temperatures also.

4. The data from the “Moving Averages” column from both the Indore and the global temp sheets was taken to draw a line chart and the Year column formed the X axis.

Key considerations for visualising the data

5. Overall nature of change of temperature.
6. Comparison of the “Moving Average” of temperatures of Indore and Global temperature data instead of comparing the absolute values.
7. Significant dips and rises in the temperature.
8. Correlating the dips and rises of Indore temp with Global temperatures.

Line Chart



Observations

9. The temperature of Indore showed a gradual rise from 1802 to 2013.
10. The global temperatures also showed a gradual rise from 1756 to 2015.
11. The average Indore temperature for the last 218 years (1796-2013) is 24.8 degrees which is significantly higher than the global average of the same duration of (1796-2013) 8.4 degrees.
12. The Indore temperature rise is gradual and similar to the global temperature rise.
13. Global temperatures fell from 1846 to 1850 from 8.5 to 7.9 degrees and during the same time Indore temperatures fell from 24.9 to 24.5.
14. There is a high Correlation of temperatures of Indore and the global temperatures as the Correlation coefficient of 0.7105 attests. (Time period 1796-2013)